

NARRATIVE

TO: Hamid Yavari
FROM: Wei-Wei-Qiu
DATE: May 12, 2022

Facility Name: **Martin Marietta Materials, Inc. – Auburn Quarry**
AIRS No.: 013-00019
Location: Auburn, Georgia (Barrow County)
Application #: SIP-28323
Date of Application: March 9, 2020 (Expedited on March 28, 2022)

Background Information

Martin Marietta Materials, Inc. – Auburn Quarry currently operates a rock quarry and stone processing facility at 301 Parks Mill Road, Auburn, Barrow County, Georgia. This facility is regulated by Air Quality Permit No. 1423-013-00019-S-01-0 issued on February 27, 2006. The facility is classified as a synthetic minor source. The area (Barrow County) is currently attainment for all criteria pollutants per U.S. EPA (<https://www3.epa.gov/airquality/greenbook/ancl.html>).

This facility's production activities include pit drilling, pit loading, stone crushing and screening, and associated material conveying/storage, loading and unloading, sales and associated pollution controlling. Production equipment includes hoppers, feeders, trucks, crushers, screens, conveyors, bins, and wet suppression systems, etc. This quarry also has an onsite stone sale operation.

Purpose of Application

On March 9, 2022, Martin Marietta Materials, Inc. – Auburn Quarry submitted SIP Air permit Application No. 28323 for the modification and operation of its existing quarry and stone processing facility located in Auburn, Barrow County, Georgia. The application was accepted into EPD's Expedited Permitting Program on March 28, 2022. The proposed facility modification involves replacement and on-site relocation of stone processing units and on-site relocation of mining pit. All the processing units/equipment at this quarry after the proposed modification will be subject to 40 CFR 60 Subpart OOO, "*Standards of Performance for Nonmetallic Mineral Processing Plants*" and require performance testing for visible fugitive emissions per NSPS Subpart OOO.

Equipment List

The application No. 28323 included an updated equipment list of the facility after the proposed modification. Therefore, Attachment A to the current permit No. 1423-013-0019-S-01-0 has been updated accordingly based on this list. The updated Attachment A to the draft permit No. 1423-013-0019-S-02-0 proposed for the modified quarry was reproduced below:

Equipment/Process	Source Code	Controls	Date	NSPS
Quarry Drilling	DRILL	30% Pit Retention	Post-1983	No
Quarry Truck Loading	TRKLD	30% Pit Retention	Post-1983	No
Truck Unloading & Unloading (150 Ton Dump Hopper)	TRKUNLD	30% Pit Retention (Water Spray)	Post-1983	No
Stone Crushing Operation				
60"x30" Grizzly Feeder	FDR1	30% Pit Retention (Water Spray)	Post-1983	No
Telesmith 4448 Crusher	CRS1	30% Pit Retention (Water Spray)	Post-1983	Yes
54" x 95' Conveyor	CV1	30% Pit Retention (Water Spray)	Post-1983	Yes
48" x 172' Conveyor	CV2	30% Pit Retention (Carry Over)	Post-1983	Yes
48" x 96" Pan feeder	FDR2	30% Pit Retention (Water Spray)	Post-1983	No
48" x 96" Pan feeder	FDR3	30% Pit Retention (Water Spray)	Post-1983	No
48" x 96" Pan feeder	FDR4	30% Pit Retention (Water Spray)	Post-1983	No
48"x 180' Conveyor	CV3	30% Pit Retention (Water Spray)	Post-1983	Yes
48" x 297' Conveyor	CV4	30% Pit Retention (Water Spray)	Post-1983	Yes
8' x 20' Scalping Screen	SCR1	30% Pit Retention (Carry Over)	Post-1983	Yes
24" x 96' Conveyor	CV5	30% Pit Retention (Water Spray)	Post-1983	Yes
100 Ton Crusher Bin	BIN1	30% Pit Retention (Water Spray)	Post-1983	Yes
48" x 96" Pan feeder	FDR5	30% Pit Retention (Carry Over)	Post-1983	No
Sandvik CS440 Crusher	CRS2	30% Pit Retention (Water Spray)	Post-1983	Yes
36" x 184' Conveyor	CV6	30% Pit Retention (Water Spray)	Post-1983	Yes
36" x 61' Conveyor	CV7	30% Pit Retention (Carry Over)	Post-1983	Yes
36" x 323' Conveyor	CV8	30% Pit Retention (Water Spray)	Post-1983	Yes
36" x 60' Conveyor	CV9	30% Pit Retention (Water Spray)	Post-1983	Yes

Equipment/Process	Source Code	Controls	Date	NSPS
36" x 822' Conveyor	CV10	Carry Over	Post-1983	Yes
30" x 100' Conveyor	CV11	Carry Over	Post-1983	Yes
36" x 715' Conveyor	CV12	Carry Over	Post-1983	Yes
150 Ton Transfer Bin	BIN2	Carry Over	Post-1983	Yes
54" x 120" Pan Feeder	FDR6	Carry Over	Post-1983	No
42" x 233' Conveyor	CV13	Carry Over	Post-1983	Yes
8' x 24' Sizing Screen	SCR2	Water Spray	Post-1983	Yes
100 Ton Crusher Bin	BIN3	Carry Over	Post-1983	Yes
54" x 102" Pan Feeder	FDR7	Water Spray	Post-1983	No
Sandvik CH660 Crusher	CRS3	Carry Over	Post-1983	Yes
36" x 266' Conveyor	CV14	Carry Over	Post-1983	Yes
42" x 65' Conveyor	CV15	Water Spray	Post-1983	Yes
24" x 95' Conveyor	CV16	Carry Over	Post-1983	Yes
24" x 143' Conveyor	CV17	Carry Over	Post-1983	Yes
Twin 44' x 33" Conveyor	SS1	Wet Process	Post-1983	No
26" Separator	SEP1	Wet Process	Post-1983	No
24" x 100' Conveyor	CV18	Wet Process	Post-1983	No
30" x 129' Conveyor	CV19	Carry Over	Post-1983	Yes
8' x 24' Wash Screen	SCR3	Wet Process	Post-1983	No
30" x 120' Conveyor	CV20	Wet Process	Post-1983	No
30" x 100' Conveyor	CV21	Wet Process	Post-1983	No
24" x 95' Conveyor	CV22	Wet Process	Post-1983	No
24" x 95' Conveyor	CV23	Wet Process	Post-1983	No
42" x 20' Conveyor	CV24	Water Spray	Post-1983	Yes
24" x 147' Conveyor	CV25	Carry Over	Post-1983	Yes
36' Clarifier	CLR1	Wet Process	Post-1983	No

- [1] This table contains information regarding specific emissions points and was created as a reference for certain other Conditions in this Permit (or Permit Amendment). It is not intended to be a comprehensive list of all air pollution sources at this facility and may not include every minor or fugitive emission source. Future minor modifications or additions at this facility may be exempted from permitting by the Georgia Rules for Air Quality Control and may occur without causing this Attachment to be updated.
- [2] The control device column is intended to identify emission controls. Sources identified as "water carryover" rely on water moisture previously applied by required water sprays; and "wet process" requires saturation of aggregates with water.
- [3] The NSPS column is intended to distinguish between "affected facilities" and "existing facilities" or "exempt facilities". Sources identified as n/a are those types of process equipment/operation not regulated by NSPS Subpart OOO. Hence the NSPS limits do not apply regardless of the age of those types of process equipment/operation.

Emissions & Ambient Impact Modeling

Emissions of concern from this quarry operation are PM/PM₁₀, i.e., dusts generated by drilling, crushing, screening, conveying, storage, loading and unloading, wind blowing and traffic. These PM/PM₁₀ emissions are substantially abated using a combination of wet suppression, truck washing and coverage, as well as road paving and water spraying wherever feasible.

The controlled potential and actual PM₁₀ emissions were estimated based on the capacities and operating hours of the process units listed in the application No. 28323, the applicable emission factors in AP-42, Subsection 11.19.2, "Crushed Stone Processing & Pulverized Mineral Processing", and following Georgia EPD *Guideline for Modeling PM₁₀ Ambient Concentration in Areas Impacted by Quarry Operation Producing Crushed Stone*.

The following table summarized the estimated controlled facility-wide actual and potential PM₁₀ emissions as provide by the application No. 28323. For details, please refer to the application.

Source	Controlled Actual Emissions ^[1]		Controlled Potential Emissions ^[2]	
	PM ₁₀		PM ₁₀	
	lb./hr.	ton/year	lb./hr.	ton/year
Rock Processing Units	5.61	11.23	5.61	24.59
Traffic/Roadway & Stockpile	16.19	23.50	16.19	70.92
Sum--→	21.8	34.73	21.8	95.51

[1] Based on assumed actual operating time of 4,000 hours per year

[2] Based on potential operating time of 8,760 hours per year

Application No. 28323 also included an ambient dispersion/impact modeling performed for the modified quarry and associated stone processing operations. On April 6, the company submitted a revised modeling as requested by the Division. The revised modeling analyzed the impact of potential PM₁₀ emissions from the entire modified facility regarding National Ambient Air Quality Standards (NAAQS). According to the modeling reconducted by Air Protection Branch's Data & Modeling Unit (DMU) based on the modeling data included with the application No. 28323, the total ambient PM₁₀ emission impact of the modified facility is 147.9µg/m³, which complies with the 24-hour PM₁₀ NAAQS' (150 µg/m³). For details, please refer to the attached memorandum from the Data & Modeling Unit.

Regulatory Applicability

The proposed modification in the application No. 28323 will not change any rule applicability. Particulate matter (PM)/dust emissions from stationary point sources/processing equipment such as crushers, screeners, and conveyors are subject to the applicable PM and visible emission limits under Georgia Rules (e) and (b). These sources are expected to comply with the applicable PM and visible emission limits due to the use of wet suppression/water spray and other emission reduction measures wherever feasible and necessary.

PM emissions from area and moving sources at this facility such as drilling, loading, unloading, windblow and traffic are subject to Georgia Rule (n). Rule (n) limits the opacity of any fugitive emissions to 20% opacity and requires the facility to take reasonable precautions such as wet suppression to reduce fugitive PM emissions.

This facility processes nonmetallic minerals as specified in 40 CFR Part 60, Subpart OOO, *Standards of Performance for Nonmetallic Processing Plants*. NSPS Subpart OOO applies to any affected facilities that commenced construction, modification, or reconstruction after August 31, 1983.

Fugitive emissions (including those escaping capture systems) from each affected facility/source constructed, modified, or reconstructed after August 31, 1983, but before April 22, 2008, shall not exceed greater than 10 percent opacity except for any crusher that does not use a capture system, which shall not exhibit fugitive emissions greater than 15 percent opacity.

Fugitive emissions (including those escaping capture systems) from each affected facility/source constructed, modified, or reconstructed after April 22, 2008, shall not exceed greater than 10 percent opacity except for any crusher that does not use a capture system, which shall not exhibit fugitive emissions greater than 15 percent opacity.

These limits are more stringent than those in Georgia Rules (b), (e) and (n). The Permittee also shall comply with the applicable testing, monitoring, reporting, and record keeping requirements under NSPS Subpart OOO. Please note that wet material processing operations (as defined in 40 CFR 60.671) at this facility are not subject to NSPS Subpart OOO per 40 CFR 670(a)(2).

The facility is expected to comply with the applicable emission limits in these rules via the use of a combination of wet suppression, truck washing and coverage, as well as road paving wherever feasible.

Permit Conditions

Because of this modification, the current permit No. 1423-013-0019-S-01-0 issued on February 27, 2006, will be replaced with a new permit No. 1423-013-0019-S-02-0. With this new permit, the equipment list/facility description has been changed based on the application No. 28323.

Conditions 1.1 through 1.5 are the most current standard general requirement template conditions for emission sources under state rules.

Updated Condition 2.1 in the proposed permit contains applicable visible emission limits for fugitive emissions under NSPS Subpart OOO. The grain loading limits in the standard condition containing NSPS Subpart OOO emission limits are applicable only to stack PM emissions released into the atmosphere from designated PM capture systems. The modified quarry will not have such stack PM emissions which are from add-on control devices such as baghouses and/or wet scrubbers coupled with designated emission capture systems, or from designated capture systems themselves.

Condition 2.2 establishes the applicable PM emission limits under Georgia Rule (e) for stationary manufacturing processes/point sources (even without stacks) based on their process input weight rates and construction dates. Condition 2.3 establishes the visible emission limit under Georgia Rule (b) for sources subject to Rule (e).

Conditions 3.1 thru 3.4 establish Rule (n) opacity limit for fugitive emissions and several common operational requirements for reducing the fugitive emissions, including those from quarry and stone processing operations. These requirements will also ensure the facility to comply with applicable PM and visible emission limits/standards in the permit.

Conditions 4.1, 4.2 and 4.3 are for maintenance and proper function of any air pollution control systems being utilized to comply with the PM and visible emission limits in this permit.

Condition 5.1 is a standard monitoring requirement for the pollution control devices utilized to comply with the applicable emission limit(s). Condition 5.2 ensures the proper function of the wet suppression system(s) used by the Permittee and therefore the compliance of the applicable PM and visible emission limits in this permit under Rules (e), (b) and (n), as well as under NSPS Subpart OOO are achieved. Condition 5.3 is for monitoring and maintenance requirements for wet suppression systems under NSPS Subpart OOO as amended on April 28, 2008.

Condition 6.1 establishes standard performance testing requirements. Conditions 6.2 and 6.3 incorporate the applicable testing requirements under NSPS Subpart OOO. Condition 6.4 incorporates a process specific testing requirement for switching from processing saturated materials to unsaturated ones under NSPS Subpart OOO.

Conditions 7.1, 7.2 and 7.3 contain applicable reporting, recordkeeping and notification requirements under pertinent state and federal rules, especially under NSPS Subpart OOO. Condition 7.2 establishes recordkeeping and reporting requirements for the use of the water truck to control particulate matter/dust emissions from traffic. It ensures compliance with Condition 3.4. The equipment record keeping requirements in Condition 7.3 will facilitate the exemption equipment replacement as allowed under NSPS Subpart OOO. The production recordkeeping requirements in Condition 7.4 ensure the compliance with the production limitations in Condition 9.4.

Conditions 8.1, 8.2, and 8.3 contain recordkeeping and reporting requirements for modifications to permitted sources under pertinent state and federal rules, especially under NSPS Subpart OOO. These conditions also contain recordkeeping, notification, monitoring, and testing requirements as applicable to allow certain addition, modifications and/or replacements of equipment uncovered by the permit. Condition 8.4 contains requirements for temporary operation.

Condition 9.1 is a standard condition for the Division to amend, if necessary, this permit pursuant to the Division's authority as established in the Georgia Air Quality Act. Condition 9.2 is a fee requirement. Condition 9.3 facilitates the implement of the permit as well as inspection of the facility. Condition 9.4 and 9.5 establishes updated operating limitations/requirements for the modified facility based on production capacities and site and or modeling parameters used in the ambient air quality impact modeling included with the application No. 28323 and approved by the Division.

Toxic Impact Assessment

This quarry/facility will not emit any toxic air pollutants. No toxic impact assessment is required.

Summary & Recommendations

Martin Marietta Materials, Inc. – Auburn Quarry submitted the Application No. 28323 proposing replacement and relocation of stone processing equipment, and on-site relocation of pit at this facility. The facility is located in Barrow County which is an attainment area. The facility is a synthetic minor source for PM/PM₁₀ emissions, since it uses a combination of operational capacity limits, wet suppression, truck coverage, as well as road paving wherever feasible to ensure the results of the ambient impact modeling for PM₁₀ emissions to comply with the applicable NAAQS.

In conclusion, I recommend issuing the proposed Air Quality Permit No. No. 1423-013-0019-S-02-0 for the proposed modifications to Martin Marietta Materials, Inc. – Auburn Quarry, as described in Application No. 28232. Public Advisory for this permit application expired on April 15, 2022. This facility is assigned to the Northeast District (Athens) for compliance and inspection purposes. Application fee of \$2,000 and Expedited Permitting fee of \$5,000 were paid on March 28, 2022.